

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number  
WO 2005/068640 A3

(51) International Patent Classification<sup>7</sup>: C12N 15/863, 15/12, A61K 48/00, C07K 14/705

(21) International Application Number: PCT/US2004/042980

(22) International Filing Date: 23 December 2004 (23.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/532,205 23 December 2003 (23.12.2003) US

(71) Applicants (for all designated States except US): AVEN-TIS PASTEUR, INC. [US/US]; Discovery Drive, Swiftwater, PA 18370 (US). THERION BIOLOGICS, INC. [US/US]; 76 Rogers Street, Boston, MA 02142 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): PARRINGTON, Mark [CA/CA]; 1755 Steeles Avenue, Toronto, Ontario M2R 3T4 (CA). BERINSTEIN, Neil [CA/CA]; 1755 Steeles Avenue, Toronto, Ontario M2R3T4 (CA). TARTAGLIA, James, T. [CA/CA]; 1755 Steeles Avenue, Toronto, Ontario M2R 3T4 (CA). PANICALLI, Dennis [US/US]; 76 Rogers Street, Boston, MA 02142 (US). GRITZ, Linda [US/US]; 76 Rogers Street, Boston, MA 02142 (US).

(74) Agent: HALLORAN, J., Patrick; Aventis Pasteur, Inc., Discovery Drive, Swiftwater, PA 18370 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: MODIFIED KSA AND USES THEREOF

**A. Amino Acid Sequence Comparison of “Wild-Type KSA” (1) and Modified KSA (2)**

- 1 MAPPQVLAFGLLLAATATFAAAQEECVCEINYKLAVNCVNNNRQCQCTSVGAQNTVIC
- 2 MAPPQVLAFGLLLAATATFAAAQEECVCEINYKLAVNCVNNNRQCQCTSVGAQNTVIC
  
- 1 SKLAAKCLVMKAEMNGSKLGRRAKPEGALQNNNDGLYDPDCDESGLFKAKQCNGTSTCWC
- 2 SKLAAKCLVMKAEMNGSKLGRRAKPEGALQNNNDGLYDPDCDESGLFKAKQCNGTSTCWC
  
- 1 VNTAGVRRTDKDEITCSERVRTYWIIIIELKHKAREKPYDSDKSLRTALQKEITTRYQLD
- 2 VNTAGVRRTDKDEITCSERVRTYWIIIIELKHKAREKPYDSDKSLRTALQKEITTRYQLD
  
- 1 PKFITSILYENNVTIDLVQNSSQKTQNDVDIADVAYYFEKDVKGESLFWHSKKMDLTVN
- 2 PKFITSVLYENNVTIDLVQNSSQKTQNDVDIADVAYYFEKDVKGESLFWHSKKMDLTVN
  
- 1 GEQLDLDPGQTLIYYVDEKAPEEFSMQGLKAGVIAVIVVVVIAVVAGIVVLVISRKRRMA
- 2 GEQLDLDPGQTLIYYVDEKAPEEFSMQGLKAGVIAVIVVVVIAVVAGIVVLVISRKRRMA
  
- 1 KYEKAETIKEMGEMHRELNA
- 2 KYEKAETIKEMGEMHRELNA

(57) **Abstract:** The present invention relates to a nucleic acid encoding a polypeptide and the use of the nucleic acid or polypeptide in preventing and/or treating cancer. In particular, the invention relates to improved vectors for the insertion and expression of foreign genes encoding tumor antigens for use in immunotherapeutic treatment of cancer.

WO 2005/068640 A3



**(88) Date of publication of the international search report:**  
8 December 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*